ABSTRACT

It is an object of the present invention to provide a polycarboxylic acid copolymer which improves the water reducing capacity and workability of cement compositions and the like and making them easier to handle when the fluidity and water reducing capacity are at the same levels, a method of producing the copolymer, and a cement additive and a cement composition comprising the copolymer. The present invention is further to provide a polycarboxylic acid copolymer and a cement additive which are capable of improving the strength and durability of hardening products of cement compositions, hence can advantageously be used in ultrahigh strength concrete. The present invention is still further to provide a method of producing polycarboxylic acid copolymers having high water reducing capacity, reducing the viscosity of cement compositions and improving the workability in applying cement.

The present invention is directed to a polycarboxylic acid copolymer which is obtained by copolymerization of monomer components comprising a polyalkyleneimine unsaturated monomer (A1) and an unsaturated carboxylic acid monomer (B).